

Listing of Claims

Claim 1 (previously amended) A method for carrying out a smooth handoff as a mobile station roams from a first base station to a second base station both served by a wireline subnet having a link layer different than the link layer of the wireless network serving the mobile station, the method comprising

assigning by the first base station a shadow address to the mobile station, the shadow address being a wireline layer address distinct from an address of the base station and of the mobile station, corresponding to the mobile station, and having a format compatible with the link layer of the wireline subnet,

storing the shadow address in the first base station and the second base station,

transmitting a frame containing a packet from a sending device over the wireline subnet using the shadow address as the link layer destination address of the packet, and

processing the frame received from either the first base station or the second base station in the mobile station.

Claim 2 (cancelled)

Claim 3 (previously amended) The method as recited in claim 1 wherein the transmitting includes communicating the shadow address from at least one of the base stations to the sending device in response to an address resolution request by the sending device.

Claim 4 (original) The method as recited in claim 1 wherein the mobile station has an IP layer address and the storing includes storing the IP layer address, the shadow address, and the wireless link layer address as entries in a watch list for the mobile station.

Claim 5 (original) The method as recited in claim 1 further comprising, prior to the storing, sending the shadow address from the first base station to the mobile station and storing the shadow address in the mobile station.

Claim 6 (original) The method as recited in claim 5 further comprising, after the sending, transmitting the shadow address to the second base station from the mobile station.

Claim 7 (original) The method as recited in claim 5 further comprising, after the sending, transmitting the shadow address to the second base station from the mobile station as part of a standard message to register the mobile station with the second base station during roaming.

Claim 8 (previously amended) A method for carrying out smooth handoff of a mobile station from a first base station to a second base station both served by a wireless subnet having a link layer different from a link layer of the wireless network serving the mobile station, the method comprising

assigning by the first base station a shadow address to the mobile station, the shadow address being a wireline layer address distinct from an address of the base station and of the mobile station, corresponding to the mobile station and having a format compatible with the link layer of the wireless subnet,

storing the shadow address in both the first base station and the second base station,

communicating the shadow address from at least one of the base stations to a second device in response to an address resolution request by the sending device,

transmitting a frame containing a packet from the sending device over the wireline subnet for detection in either the first base station or the second base station using the shadow address as the link layer destination address of the packet, and

processing the packet as received from the first base station or the packet as received from the second base station in the mobile station.

Claim 9 (currently amended) The method as recited in claim 9 further comprising, after the sending, transmitting the shadow address to the second base station from the mobile station. claim 8 further comprising, prior to the storing, sending the shadow address from the first base station to the mobile station and storing the shadow address in the mobile station.

Claim 10 (original) The method as recited in claim 9 further comprising, as the sending, transmitting the shadow address to the second base station from the mobile station.

Claim 11 (original) The method as recited in claim 9 further comprising, after the sending, transmitting the shadow address to the second base station from the mobile station as part of a standard message to register the mobile station with the second base station during roaming.

Claim 12 (original) The method as recited in claim 8 wherein the mobile station has an IP layer address and the storing includes storing the IP layer address, the shadow address, and the wireless link layer address as entries in a watch list for the mobile station.

Claim 13 (previously amended) The method as recited in claim 12 wherein the address resolution request includes the IP layer address of the mobile station, and wherein the method further comprises looking up the shadow address in the watch list with reference to the IP layer address contained in the address resolution request.

Claim 14 (cancelled)

Claim 15 (previously amended) Circuitry for carrying out a smooth handoff as a mobile station roams from a first base station to a second base station both served by a wireline

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subnet having a link layer different from the link layer of the wireless subnet serving the mobile station, the circuitry comprising

a storage device for storing a shadow address in the first base station and the second base station, the shadow address being a wireline address distinct from an address of the base station and of the mobile station, corresponding to the mobile station, having a format compatible with the link layer of the wireline subnet, and being assigned to the mobile station by the first base station,

a receiver for receiving a frame containing a packet transmitted from a sending device over the wireline subnet using the shadow address as the link layer destination address of the packet, and

a processor for processing a frame received from either the first base station or the second base station in the mobile station.